

by Recluz, the operculum resembles a small pulley, instead of being cup-shaped as in the more typical species.

Malvern, November 29, 1852.

NOTE.—In a copy of Pfeiffer's 'Monographia Pneunoporum' just received, I find an amended description of his *Cyclotus Taylorianus* (Zeitschr. 1851), to which, in a subsequent note (p. 50), he assigns *C. Charbonnieri* as a synonym, and remarks that *Pterocyclos biciliatus*, Mousson, is closely allied to it, if not identical. A comparison with the specimen at Zürich will decide. If identical, the name *Taylorianus* must give way to Mousson's designation. The structure of the shell is that of a *Pterocyclos*. The operculum shows it to be an aberrant species, but does not quite conform to that of *Cyclotus*.—W. H. B.

December 22, 1852.

V.—*A Revision of the Genera of some of the Families of Conchifera or Bivalve Shells.* By J. E. GRAY, Ph.D., F.R.S., V.P.Z.S. &c.

SEVERAL of the families of Bivalve Mollusca are well circumscribed, and the genera of other families are well defined, but one of the problems of systematic malacology is the arrangement of the families into groups and into a natural series. Each character which has in succession been chosen, and, indeed, each group of characters which has hitherto been studied and used for this purpose, appears to fail when an extensive series of the animals and their shells have come under examination for the purpose of verifying the system proposed. Under these circumstances, I have thought it desirable to turn my attention to the examination of the smaller groups or families, and to attempt to divide them into natural sections and genera, until some fortunate combination of circumstances should show the systematic zoologist how the families can be placed in a more natural series than the provisional one now adopted. Following out this idea, I have lately, at various times, studied the species of certain families of bivalve shells which appear most to require revision, considering this the more necessary as these shells have hitherto been divided in a most unequal manner. Some genera, as *Cardium*, *Mactra*, *Tellina*, &c., are magazines, containing very many kinds; while many other genera of bivalve shells have been established on a single species, having some slight modification in its cardinal teeth, or some anomalous external form, which, when compared with other species of the family, is not of so much importance as the peculiarities in the shells offered by many kinds which have been left as species in these large

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genera, or is of less importance, when we consider the change in the organization of the animal, which must produce the character selected for the purpose of separating them from their allies;—differences which are constantly overlooked in the study of the species of the larger genera.

Hitherto modern conchologists seem, on principle, to have avoided the examination, revision, and analysis of the genera of these shells; as I cannot call to mind a single author, either in England or abroad, who has within the last ten or twelve years published any paper on a single family of bivalve shells except myself; indeed they remain nearly in the state they were left by Lamarck, except as far as regards the description of certain isolated genera formed for a few and often a single newly discovered species.

This apparent neglect of the subject has most probably arisen from the difficulty of studying the species of the genera in detail, without having the facility of examining a large number of the specimens of each species in their various states of growth at the same time, and of moving them about, so as to see how the species of the family or genus agree with or differ from each other at a single view,—a kind of examination which the small drawers of the cabinet generally used do not well afford. The British Museum collection, where all the specimens of the different species are attached and arranged in the same position on moveable boards, affords me, in common with any other conchologist who is willing to study it, greater facilities for this kind of comparison than any other collection I have seen either in this country or on the continent. It is probably the facilities which this collection has afforded me for studying the affinities of the genera and families of shells, that have induced so many of the most scientific conchologists to receive with such kindness the observations on the genera and families of shells published in the 'Synopsis' of the British Museum for 1840 and 1842, and my papers on the genera of *Veneridæ*, *Mastradæ*, *Anomiadæ*, *Placuniadæ*, *Pholadidæ*, &c., which have been published in the various journals.

It is this attention, and the hope of forwarding the study of a very favourite part of malacology, which have induced me to send the following synoptical revision of the genera of certain families of Bivalves for insertion in the 'Annals,' premising that in the Catalogue of the Bivalve Mollusca now in progress, the characters of the genera will be given in greater detail.

I may here observe, that I regard the shortness of the character as an advantage, enabling the student easily to identify the group of genera and the genus to which any particular species under examination belongs. It is the custom of many zoologists to give extended characters of the genera and long descriptions of

the species. This is an advantage when only a single genus of a family, or only a single or a few species of a genus, are described; but, in a work on all the species of a family, if each kind was so described and characterized, whose life would be long enough to read and identify the animal now known in the different Museums? Mr. William MacLeay has well observed, "The modern art of describing is too long, often insuperably long, while human life remains as short as ever." (Illus. Zool. South Africa, 54.) The system of long descriptions is not required, when all, or even the greater number of the species of a family or genus has been personally examined, and especially when they, or the greater part of them, are present at the same time before the eyes of the author, as is the case with most families of animals in the British Museum. Then the characters which divide them into smaller groups, and these groups again into genera, soon present themselves to the student, and the characters thus discovered are as easily arranged in a tabulated form. Hence, that which would be very difficult, indeed almost impossible for a person to do with a small collection, or only with the descriptions of others before him, becomes comparatively easy to one who has a large and well-arranged collection at his command, and with common care, the short comparative descriptions of a naturalist with such advantages are and ought to be very superior to the long characters and detailed descriptions of one who has only a few specimens, or the descriptions given in books, for comparison.

The value of both the short character and the long description must depend on the accuracy and observant faculties of the describer; but there is less liability to error in the short character than in the long description; for to make the former, the author must submit the species to an accurate examination and rigid comparison, which must draw his attention to those parts of the animal or shell which are least liable to vary, and hence afford the best character to separate the species; while the describer of an individual specimen, who is likely only to be attracted by the more prominent peculiarities of the species, may overlook the most characteristic particular. This is well illustrated in M. F. Cuvier's work on Mammalia, where every individual has at least one, and often three or four pages of description, and in the most, the character which distinguishes it from its congener, if there is any other species of the genus, is not given. Again, in Schönher's work on *Curculionidæ*, in which seven large volumes of close type are filled with the descriptions of the species of the Linnæan genus *Curculio*, each species occupies a page or more; and at the end of the description the reader is informed that such a species is very distinct from a certain other one, as will be seen by the description; yet, when the descriptions are compared word by word with

one another, they are so exactly alike, that one is at a loss to conceive what the difference between the two species can be.

In making a long description of a species of a natural genus, the characters which are common to the different allied species must be repeated, and it is very difficult in reading the descriptions, without a very accurate comparison, to seize on the essential character of the species under examination, and therefore it is generally considered necessary to append to a long description observations pointing out how the species described differs from its allies, all of which trouble is avoided by a well-considered short character prepared after the examination and comparison of the allied species.

On the other hand, a short analytic character, either of a genus or a species, is not so short and incomplete as it at first appears; for in examining and comparing a genus of shells with the character, it should be compared first with the character of the family, and then with all the sections and divisions until we arrive at the generic character, and that character may be said to contain the short essential character of the genus, combined with the character of all the previous divisions and sections; and if these were written out together and repeated in each genus, each of them would be found to be furnished with a character of considerable length. It is exactly the same with the species. This is the chief advantage of the analytic method of characterizing the genera and species, that the characters common to two or more genera or species need not be repeated for each.

Fam. 1. VENERIDÆ, Gray, Syn. B.M. 1842, 74.

I propose to confine this family to the genera which have the hinder lateral tooth compressed and forming a part of the margin of the shell, and the mantle lobes free. This will exclude *Cyprina*, *Petricola* and *Glauconome*, which I believe form the types of distinct families, and the genera *Capsa* and *Diplodonta*, which I think ought to be removed to *Tellinidæ*. The family so restricted may be divided thus:—

A. *Foot lunate, inferior; siphons united; shell orbicular.*

1. *Dosinia.* 2. *Cyclina* (*Lucinopsis*).

B. *Foot lanceolate anterior; siphons partly united; shell ovate, triangular or oblong.*

a. *Anterior lateral tooth distinct; cardinal teeth triangular; shell ovate.* *Meretricina.*

* *Hinder cardinal tooth cross-grooved or torn.*

3. *Meretrix.* 4. *Cuneus.* 5. *Grateloupia.* 6. *Trigona.*

** *Hinder cardinal tooth smooth.*

7. Dione. 8. Venus. 9. Circe.

b. *Anterior lateral teeth none; cardinal teeth triangular; shell ovate.*

10. Chione (and Mercenaria). 11. Anomalocardia.

c. *Anterior lateral teeth none; cardinal teeth compressed; shell oblong.*

12. Tapes (Saxidomus and Rupellaria part.). 13. Clementia.

Fam. 2. CYPRINADÆ.

Shell ovate, cordate, covered with a hard dull brown periostraca. The hinge-teeth 3·3, triangular; the front of left valve conical, rugose, like the anterior lateral tooth of *Venus*; the hinder of left valve very thin, compressed; the middle of right valve compressed; the hinder very broad, with a deep groove; anterior lateral tooth none; hinder of right valve compressed, separated from the dorsal margin by a deep groove. Siphonal inflection none, or very slightly truncate. Mantle lobes free beneath. Siphons very short (Müller, Zool. Dan.).

These shells have much the appearance of *Astartidæ* and *Glossidæ*, but the teeth and form are more like *Veneridæ*.

1. *Cyprina*, Lamk., Gray, Proc. Zool. Soc. 1847, n. 545.

Fam. 3. GLAUCONOMIDÆ.

Shell oblong, covered with a hard green periostraca extending beyond the edge. Hinge-teeth 3·3; right valve, two anterior small, conical, bent up; hinder very oblique, elongate, bifid; left valve, anterior small, middle rather oblique, larger, bifid; hinder very oblique, small, laminar. Ligament external, marginal; fulcrum moderate. Lateral teeth none. Siphonal inflection very narrow elongate, ascends obliquely towards the back of the shell, and with a rough muscular scar at the inner end.

Animal — ?

The *Glauconomidæ* differ from the *Veneridæ* in the form and disposition of the teeth, in their freshwater habitation, and in being covered with a hard green periostraca, which, from its external appearance, seems evidently to cover the siphons as in *Myadæ* and *Solenidæ*.

They differ from *Solenidæ* in having more teeth in the hinge, and in the teeth being very differently disposed.

1. *Glauconome*, Gray, l. c. n. 549*. The freshwater streams of Asia.

Fam. 4. PETRICOLIDÆ.

Shell ovate, white, covered with a thin hard periostraca. The cardinal teeth 2·2 (one often obsolete), bent up as if coming from the inner surface of the shell under the umbo, the middle one deeply bifid; lateral teeth none, or rudimentary, marginal. Siphonal inflection deep, rounded. Mantle lobes united, with a small anterior slit. Siphons two, elongate, united at the base. Aperture ciliated. Foot small, thin, cylindrical, with a distinct byssus.

1. *Petricola*, Lamk., Gray, *l. c.* no. 556. Cardinal teeth rather compressed. *P. Lithophaga*, Lamk.

This shell must not be confounded with the boring *Tapes* = (*Rupellaria*, Bellev.), which have three regular compressed teeth on each valve.

2. *Naranio*. Shell ovate, equivalve, inequilateral, swollen, rugose, tubercular, costated behind; umbo anterior. Cardinal teeth of right valve two, oblique, the upper compressed, elongate; of left valve triangular, oblique, bifid. Lateral teeth none. Cartilage external, short, in a slightly sunken groove. Siphonal inflection very large, rounded; anterior scar oblong, hinder very large, roundish.

These shells have nearly the external appearance and hinge of *Coralliophaga*, but are easily known by the large siphonal inflection. They are generally covered with a calcareous secretion, which hides the rugosities on the surface, and live in stony corals.

1. *N. costata*. Surface covered with zigzag grooves and costated in front. From the West Indies.

2. *N. radiata*. Surface covered with radiating grooves. Japan.

Fam. 5. CORBICULADÆ, Gray, P. Z. Soc. 1847, 184.

Cardinal teeth 3·3 or 2·2, diverging; lateral teeth compressed. Siphonal inflection none. Periostraca olive, hard, brittle, often polished. Siphons contractile.

A. Cardinal teeth 3·3, front of right and hinder of left valve smallest. Shell solid.

1. *Corbicula*, Megerle, Gray, P. Z. S. 1847, n. 552. Shell subcordate; lateral teeth compressed, subequal, finely striated. *C. fluminea*.

2. *Batissa*. Shell subcordate; lateral teeth compressed, striated, front very short, hinder elongate. *B. tenebrosa*. *B. obesa*, Hinds.

3. *Velorita*, Gray, Syn. B.M. 1842, 75; P. Z. S. 1847, n. 554. Shell cordate, triangular, thick; teeth large, lateral, very finely

striated, anterior very large, angular, hinder elongate, compressed.
V. Cyprinoides.

4. *Cyrena*, Lamk., Gray, P. Z. S. 1847, n. 553. Shell subcordate; lateral teeth smooth, front roundish, hinder rather compressed. *C. Zeylanica.*

B. *Cardinal teeth 2·2, moderately diverging, front of right valve and hinder of left valve smaller; lateral teeth elongate, compressed, smooth; of right valve double, of left valve simple. Shell thin.*

5. *Sphærium*, Scopoli, Gray, P. Z. S. 1847, n. 555. Shell oblong, cordate, equilateral; siphon of animal separate, diverging at the tip. *S. corneum.*

6. *Pisum*, Megerle, Gray, P. Z. S. 1847, n. 556. Shell ovate, wedged shaped, inequilateral, truncated behind; siphons of animal short, united to the end. *P. amnicum.*

FAM. 6. CYRENELLADÆ.

Shell oblong, roundish, ventricose, thin, covered with a hard olive periostraca. Cardinal teeth 3·2, the front and hinder of the right valve thin, laminar, united above under the umbo and enclosing the small triangular central one; the two teeth of the left valve united above under the umbo, and fitting into the very narrow slit between the central and two united teeth in the other valve; the front tooth the longest, large and high, especially in the middle of its length, and oblique; the hinder small, thin, and diverging from the umbo; front lateral teeth none, hinder rudimentary, elongate, the one of the left valve being separated from the dorsal margin by a slightly impressed groove. Siphonal inflection none.

Animal:—mantle lobes free beneath, united at each end, and furnished with two elongated, united, contractile (not retractile) siphons; lips elongate; foot subcylindrical, clubshaped. Gills two on each side (in *Lucinidæ* only one) (Mag. Zool. 1835, t. 70).

Genus 1. *Cyrenoida*, Gray, Proc. Zool. Soc. 1847.

Cyrenoida, Joannis, Mag. Zool. 1835, t. 64 (shell).

Cyrenella, Deshayes, Mag. Zool. 1836, t. 70 (animal); *Wiegmann's Archiv*, 1836; *Desh. Elem. Conch.* t. 14*.

Cyrenodonta, Auct.?

Cyrenoides, Sow. *Manual*, ed. 2. 135. 1842, misprint.

This genus was established by Joannis (Mag. Zool. 1835, t. 64), who very inaccurately observes,—“Le charnier qui est pour les dents cardinales à-peu-près celle des *Cyrènes*, mais qui manque complètement des dents latérales si caractéristiques dans ces dernières, nous a décidé à établir le sousgenre *Cyrenoides*.” The figure is more accurate than this description.

M. Deshayes shortly afterwards (Mag. Zool. 1835, t. 70) described the animal, and observed that he had previously suggested for the genus the name *Cyrenella*, and proposed to place it between the genera *Lucina* and *Venus*, which M. Joannis combats in the same paper.

1. *Cyrenoïda Dupontia*, Joannis, Mag. Zool. 1835, t. 6.

Hab. River of Senegal.

Is the only species known; the new species referred to this genus by Mr. Adams (Proc. Zool. Soc. 1849) and M. Deshayes being species of *Sphærella* of Conrad belonging to the family *Lucinide*.

Fam. 7. *CARDIADÆ*, Gray, Syn. B.M. 1840, 137; 1842, 75.

Cardinal teeth 2·2, placed so as to form a cross when the valves are closed; lateral teeth lamellar, elongate. Shell costate. Periostraca thin, rarely distinct. Siphonal inflection none. Siphons very short, separate.

A. *Shell gaping and furnished with a serrated posterior margin.*

1. *Cardium*, Gray, P. Z. S. 1847, n. 557. Shell subglobose, hinder gape distinct.

* Gape very large. *C. indicum*. ** Gape moderate. *C. costatum*.

2. *Bucardium*. Shell subglobose, costated, hinder gape narrow and strongly toothed on the hinder edge.

* Shell as long as high, costated. *B. ringens*. ** Shell higher than long. *B. procerum*. *** Shell, hinder slope subcarinated. *B. unedo*.

3. *Papyridea*, Swainson, Gray, P. Z. S. 1847, n. 560. Shell oblong, elongate; hinder gape moderate, toothed. *P. soleniforme*.

4. *Fulvia*. Shell subglobose, rather produced behind; hinder gape moderate, slightly toothed. *F. aperta*.

B. *Shell closed and smooth, or nearly smooth behind.*

5. *Cerastes*, Poli. *Cardium*, part., Gray, l. c. n. 557. Shell subcordate, convex behind; lunule simple; cardinal teeth well developed.

* Rounded, ribbed. *C. aculeatum*. ** Rounded, smooth. *C. norvegicum*. *** Rounded, anterior half obliquely ribbed. *C. æolicum*. **** Subcarinate. *C. medium*. ***** Costate, hinder slope keeled. *C. hemicardium*. ***** Smooth, hinder slope keeled (*Didacna*). *C. lineatum*.

6. *Aphrodita*, Lea, Gray, P. Z. S. 1847, n. 557. Shell subcordate; lunule simple; cardinal teeth rudimentary. *A. edentula*.

7. *Cardissa*, Megerle, Gray, P. Z. S. 1847, n. 558. Shell cordate, keeled, very short, hinder side shortest or impressed; lunule simple; cardinal teeth distinct, more or less distorted.

C. Cardissa.

8. *Lumulicardia*. Shell cordate, keeled; lunule deeply impressed; cardinal teeth more or less distorted. *L. retusa*.

Cardium avicularia and *C. cymbulare* are more allied to *Hippopus* than to *Cardium*; like *Hippopus* the front side is short, with the gaping edges, and not the hinder as in *Cardium*, and the teeth are oblique and not placed in a cross. If distinct from *Hippopus*, it may form a genus of *Tridacnida*, named *Avicularium*, characterized by the height of the shell (see Gray, P. Z. S. 1847, 561).

Adacna (leviuscula) has a long and *Didacna* a small siphonal inflection and distinct siphons; they are evidently more allied to the genera *Panopea* and *Cyrtodaria* than to *Cardiada*, with which they have generally been placed, apparently on account of their costated shells.

Fam. 8. MACTRADÆ, Gray, Syn. B. M. 1840, 137; 1842, 75.

Shell equivalve. Cardinal teeth two in each valve, the hinder one small, compressed, often rudimentary, the front one triangular, more or less deeply nicked; lateral teeth of left valve simple, of right double. Cartilage in an internal pit. Siphonal inflection distinct. Mantle lobes more or less free beneath, united before and behind, and extended into two retractile siphons. Foot lanceolate, subanterior.

A. Shell subtriangular, ovate, nearly closed behind; lateral teeth distinct, well developed, laminar; mantle lobes free. Mactrina.

a. Ligament in a groove above the cartilage-pit.

1. *Schizodesma*, Gray, Mag. N. H. i. 370; P. Z. S. 1847, n. 563. Shell triangular; lateral teeth simple, compressed. *S. Spengleri*.

b. Ligament marginal, triangular, separated from the cartilage-pit by a shelly ridge.

2. *Mactra*. *Mactra* A., Gray, Mag. N. H. i. 370.¹ Shell trigonal; lateral teeth elongate, linear, subequal. *M. stultorum*.

3. *Mactrinula*. *Mactra* C., Gray, Mag. N. H. i. 371.² Shell trigonal, thin; hinge-margin double; lateral teeth short, very close to the cardinal ones. *M. plicaria*.

4. *Mactrella*. *Mactra* B. & E., Gray, Mag. N. H. i. 371.³ Shell cordate, triangular, thin; hinder lateral teeth very short, rudimentary, and near the cardinal. *M. striatula*.

5. *Harvella*. *Mactra* E., Gray, *l. c.* Shell cordate, thin, hinder slope keeled, narrow; hinge-margin double; lateral teeth very small, close up to the cardinal. *H. elegans*.

c. *Ligament submarginal, triangular, near the cartilage-pit.*

6. *Spisula*. Shell trigonal, hinder slope more or less keeled; lateral teeth elongate, cross-ribbed. *S. solida*.

d. *Ligament internal, in the same closed pit as the cartilage.*

7. *Mulinia*, Gray, Mag. N. H. i. 372. f. 33; P. Z. S. 1847, n. 568. Shell triangular; lateral teeth short, simple. *M. typica*.

8. *Gnathodon*, Gray, Mag. N. H. i. 373. f. 34; P. Z. S. 1847, n. 569. Shell ovate, triangular, thick, rather produced behind; lateral teeth elongate, front dilated and angular above. *G. cuneata*.

B. *Shell oblong or elongate, gaping behind; lateral teeth very small, rudimentary, often obsolete, especially in adult shell; mantle lobes (generally?) united.* Lutrariana.

a. *Ligament external, marginal, separated from the cartilage-pit by a shelly plate.*

9. *Tresus*. Lutraria sp., *Middend.* Shell ovate oblong, ventricose, hinder gape roundish; cardinal teeth small; lateral teeth very small, close to the cardinal; siphonal inflection large, oblong. *T. maximus*.

10. *Darina*. *Erycina* sp., *King*. Shell oblong, compressed, rounded, and slightly gaping at each end; umbo subposterior; cartilage-pit large; lateral teeth very small, close to cardinal. *D. solenoides*.

b. *Ligament subexternal, marginal, not separated from the cartilage.*

11. *Standella*, n. g. *Spisula* A., Gray, Mag. N. H. i. 271. Shell ovate, hinder slope more or less keeled; lateral teeth short, smooth, anterior oblique.

* Oblong, smooth. *S. fragilis*. ** Oblong, radiately ribbed. *S. aegyptiaca*.

12. *Eastonia*. Lutraria C., Gray, Mag. N. H. i. 174. Shell oblong, rather ventricose, thick, equilateral, radiately ribbed, hinder slope rugose, hinder gape small; cardinal teeth of left valve compressed, nicked; anterior lateral tooth nearly perpendicular. *E. rugosa*.

13. *Lutraria*, Lamk., Gray, P. Z. S. 1847, n. 566. Shell oblong, elongate, rather compressed, subequilateral; umbo subanterior; hinder gape moderate or large; cardinal teeth distinct;

anterior lateral teeth erect, hinder very small, often obliterated in adult shells. *L. elliptica*.

14. *Zenatia*. *Lutraria* sp., *Quoy*. Shell oblong, elongate, compressed; umbo anterior, submarginal, hinder gape large; cardinal teeth distinct, lateral teeth none. *Z. zelandica*.

15. *Resania*. Shell oblong, rounded in front, tapering behind, strengthened by two broad raised diverging ribs within; umbo central, hinder gape moderate; cardinal teeth distinct; anterior lateral tooth very small, close to the cartilage-pit, posterior none.

R. lanceolata. Shell oblong, lanceolate, compressed, tapering behind, white. N. Zealand. ⁵⁶⁵

16. *Cypricea*, Gray, P. Z. S. 1847, n. 185. *Lutraria* **, *Gray*, *Mag. N. H.* i. ~~176~~ ³⁷⁵. Shell oblong, marked with an oblique posterior ridge, largely gaping and reflexed behind; lateral teeth distinct; anterior oblique, near the small cartilage-pit. *C. recurva*.

17. *Raeta*. *Lutraria* ***, *Gray*, *Mag. N. H.* i. 376. Shell cordate, ventricose, thin, slightly produced and rather gaping behind, hinder slope keeled, narrow; cardinal teeth strong; hinder lateral tooth small, distinct. *R. campechensis*. ⁵

c. *Abnormal; ligament marginal near cartilage; cardinal tooth of left valve broad, triangular, nicked.*

18. *Cœcella*. Shell oblong, subequilateral; lateral teeth very small, close to the cardinal tooth; cartilage-pit produced into the cavity of the shell.

C. Horsfieldii. Madras and China. Perhaps the type of a new family.

The genus *Pythina* of Hinds (*Zool. Sulphur*, 71. t. 19. f. 8, 9), which that author has referred to *Mactrada*, evidently belongs to *Lasiada*, and is very nearly allied to *Kellia*.

Fam. 9. ANATINELLADÆ.

Shell oblong, rather gaping behind, equivalve, equilateral; umbo central, white; covered with a thin smooth periostraca. Ligament thin; cartilage internal, in an oblong narrow pit, projecting into the cavity of the shell, nearly at right angles with the cardinal edge. Cardinal teeth in the right valve two, diverging, slightly raised; of the left valve single, triangular, rather bifid; lateral teeth none. Siphonal inflection none; anterior scar elongate, slender, marginal, hinder oblong, triangular.

The *Anatinelladæ* are like a roundish *Lutraria* without any lateral teeth, but the cardinal teeth are less developed, and there

are no lateral teeth nor siphonal inflection, and the inner surface of the valves is opake white.

1. *Anatinella*, Sow., Gray, P. Z. S. 1847, n. 570. *A. Sieboldii*.

Fam. 10. PAPHIADÆ, Gray, P. Z. S. 1847, 186.

Chiefly distinguished from *Mastradæ* by the imperfect development of the cardinal tooth, which is simple, compressed, and with a small process on the upper edge in the place of the second tooth.

A. *Siphonal inflection distinct*.

1. *Mesodesma*, Deshayes. Shell ovate, subequilateral; lateral teeth short, smooth, subequal. *M. novæzelandiæ*.

2. *Taria*. Shell oblong, subequilateral, attenuated behind, hinder slope keeled; lateral teeth very small. *T. Stokesii*, n. s.

3. *Donacilla*, Lamk. 1818. Shell elongate, wedge-shaped, hinder slope truncated; anterior lateral teeth elongate, hinder short. *D. cornea*.

4. *Paphia*, Lamk. 1801; Gray, P. Z. S. 1847, n. 572. Shell ovate, cuncate, truncated and slightly keeled behind; lateral teeth small, subequal, smooth. * Siphonal inflection short. *P. glabrata*. ** Siphonal inflection elongate. *P. ventricosa*.

5. *Ceronia*. Shell ovate, cuncate, truncated behind; lateral teeth subequal, compressed, strongly cross-grooved. *C. denticulata*.

B. *Siphonal inflection none*.

6. *Anapa*, Gray, Syn. B. M. 1842; P. Z. S. 1847, 573. Shell subtrigonal, ventricose, truncated behind; lateral teeth subequal, compressed, smooth. *A. Smithii*, V. D. Land.

7. *Davila*. Shell ovate, cuncate, truncated behind; lateral teeth unequal, anterior small, perpendicular. *D. polita*, n. s.

[To be continued.]

VI.—On the Ianthinæ, Scalariæ, Naticæ, Lamellaræ, and Velutinæ. By WILLIAM CLARK, Esq.

To the Editors of the *Annals of Natural History*.

GENTLEMEN,

Norfolk Crescent, Bath, Nov. 25, 1852.

HAVING, agreeably to my method of the classification of the British Mollusca, published in the 'Annals,' N.S. vol. vii. p. 469, constituted the family of the *Peloridae*,—forming, as I think, one of the approaches to the *Murices*, also described in the 'Annals,' vol. vii. p. 108,—I have thought that it would be a proper attention to naturalists, and justice to myself, to assign the reasons